

WHAT IS CLAIMED IS:

1. An electric double layer capacitor comprising:  
a separator having a substantially planar form;  
a pair of current collectors having a plate-like shape and disposed oppositely relative to the separator and in parallel with the separator;

a pair of polarizable electrodes having a plate-like form and disposed between the separator and the current collectors;  
and

a gasket in the form of a frame disposed in laterally contiguous relation to the separator and the current collectors in such a manner that the gasket is laterally contiguous to the separator and the current collectors to accomodate the polarizable electrodes in a pair of closed vacancies defined by the separator, the current collectors and the gasket;

each of said closed vacancies containing an electrolytic solution.

2. A electric double layer capacitor according to claim 1, wherein the outer surface of each of the current collectors is coplanar with the nearer end surface of the gasket or apart from the plane including the nearer end surface of the gasket at a distance of about  $20\mu\text{m}$  or smaller.

3. A electric double layer capacitor according to claim 1, wherein the gasket is made of a resin having a transparency

of at least such a degree that the current corrector can be seen through the gasket.

4. A electric double layer capacitor according to claim 1, wherein the gasket is made of a polyolefin film.

5. A electric double layer capacitor according to claim 4, wherein the gasket is made of an ionomer.

6. A electric double layer capacitor according to claim 1, wherein the current collector has a thickness of larger than about  $15\mu\text{m}$  to about  $200\mu\text{m}$ .

7. A electric double layer capacitor according to claim 1, wherein quotient obtained by dividing the value resulting from subtraction of the thickness of the polarizable electrode from the distance between the current collector and the separator by the thickness of the separator is in a range of about 0.2 to about 0.6.

8. A method for preparing en electric double layer capacitor, said method comprising steps of:

(A) applying a current collector having a plate-like form onto a surface of a substrate in such a manner that an uncovered portion of the substrate is formed around the current collector;

(B) disposing a gasket element in the form of a frame having an opening for accommodating the current collector on the uncovered portion of the substrate in such a manner that the current collector laterally abuts on the gasket element to

define a concavity;

(C) placing a polarizable electrode impregnated with an electrolytic solution in the concavity defined by the current collector and the gasket element;

(D) oppositely disposing two intermediate products prepared through the steps (A) to (C) on a separator having a substantially planar form in such a manner that the gasket elements abut on surfaces of a peripheral portion of the separator;

(E) fusion-bonding the gasket elements together to laterally cover the separator with the resulting unified gasket to unite the two intermediate products and the separator; and

(F) removing the substrates from the current collectors and the gasket.

9. A method for preparing an electric double layer capacitor according to claim 8, wherein the substrate has a vapor transmission rate of about  $10\text{mg}/\text{m}^2/24\text{h}$  or lower measured in accordance with JIS Z 0208 test method when provided that diluted sulfuric acid is used as an electrolytic solution.

10. A method for preparing an electric double layer capacitor according to claim 8, wherein the substrate is a polyethylene terephthalate film.

11. A method for preparing an electric double layer capacitor according to claim 8, wherein the current collectors

have a glass transition temperature higher than that of the substrate, said method further comprises between the steps (E) and (F), steps of:

(a) placing the product resulting from the step (E) in an environment having a temperature which is equal to the glass transition temperature of the substrate or higher and which is lower than the glass transition temperature of the current collector; and subsequently

(b) placing the resultant in an environment having a temperature which is room temperature or lower.

12. A method for preparing an electric double layer capacitor according to claim 8, wherein a plurality of current collectors are applied onto the substrate in the step (A) and wherein the current collectors on the substrate in the step (A), the resulting products on the substrate from each of the steps (B) and (C) and the resulting products on between the substrates from the step (D) are en bloc subjected to the next steps (B) to (E), respectively.